

## Description

The Lightweight Counter-Mortar Radar (LCMR) AN/TPQ-48(V) system, developed in partnership between the US Army and Syracuse Research Corporation (SRC) and manufactured by SRCtec, Inc. (SRCtec), provides critical Counter-fire Target Acquisition (CTA) capabilities as well as force protection for personnel and facilities throughout all theaters of operation involved in the Global War on Terrorism. Through integration into the U.S. Army's command and control systems, the LCMR enables the warfighter to initiate timely action to neutralize identified threats and warn against incoming indirect fire attacks. The LCMR was designed to automatically locate indirect fire weapons and to be sufficiently lightweight to support insertion by Airborne troops. LCMR is specified to detect and track hostile fires at ranges out to effective range of most mortar weapons and locate the firing weapon with a target location error sufficient to neutralize the shooter with either Combat Air Support or counterfire.



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# LIGHTWEIGHT COUNTER MORTAR LCMR AN/TPQ-48



## Characteristics

The LCMR detects and locates mortar positions automatically over 360° by detecting and tracking the mortar shell and then backtracking to the weapon position. When a mortar is detected, the LCMR sends a warning message indicating a round is incoming. After sufficient data is collected to enable an accurate weapon location, the weapons location is transmitted.

LCMR successfully demonstrates the concept of a lightweight, man portable radar weighing approximately 120 pounds and is transportable by a crew of two, and is digitally connected to fire support and command control networks. Its light weight modular design speeds employment and displacement providing the warfighter with enhanced target location accuracy and projectile classification capability. The LCMR mitigates close combat radar coverage gaps and complements the current AN/TPQ-36 and 37 Firefinder Radars; fully supporting Modular and Fires Brigades operations.

## Special Features

The LCMR provides continuous 360° coverage at very high scan rates and with high reliability. The LCMR is very compact and lightweight. The radar can be battery powered and requires less than 300 watts of prime power. It can run off of vehicle power and is shipped with an AC adapter to allow use of generator or commercial power. The system is also adaptable through software and firmware.

## Capability/Improvements

A developmental effort for the LCMR system has been initiated to provide improved operational and physical functionality over the existing LCMR radar systems. The improved LCMR will have increased accuracy and range, maintain its high mobility and two-man transportability, have improved emplacement capabilities, and be ruggedized for today's battlefield. An additional developmental effort for the LCMR system has been initiated to mitigate the stress of continuous deployment and also to insert technology developed under other LCMR programs. Upgrades include: Increasing system accuracy, Providing hardware improvements of the single board computer, automatic survey and alignment, tripod, and gain stage adjustments. Also included is a redesign of the transport cases and the addition of a fiber-optic interface, and Software Improvements.

